



Department of Energy, Mines,
Industry Regulation and Safety
Dangerous Goods Safety



DANGEROUS GOODS SAFETY GUIDE

Reporting and investigating incidents and other situations involving dangerous goods

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Reference

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Foreword

Guides

A guide is an explanatory document that provides more information on the requirements of legislation, details good practice and may explain means of compliance with standards prescribed in the legislation. The government, unions or employer groups may issue guidance material.

Compliance with guides is not mandatory. However, guides could have legal standing if it were demonstrated that the guide is the industry norm.

This guide has an operations focus and is set out in the context of risk assessment and legislative requirements of all responsible persons. Consequently, each operation needs to understand its limitations and skills base.

In this guide, the word 'must' indicates a legal requirement that a person conducting a business or undertaking (PCBU) is required to comply with. The word 'should' indicates a recommended course of action.

This guide is based on current experience and is not claimed to be complete.

Who should use this guide?

You should use this guide if you are responsible for reporting or investigating dangerous goods incidents and other reportable situations.

Dangerous Goods Safety Act 2004

The *Dangerous Goods Safety Act 2004* provides for the safe management of dangerous goods in Western Australia and is supported by the following regulations:

- Dangerous Goods Safety (Explosives) Regulations 2007
- Dangerous Goods Safety (General) Regulations 2007
- Dangerous Goods Safety (Major Hazard Facilities) Regulations 2007
- Dangerous Goods Safety (Road and Rail Transport of Non-explosives) Regulations 2007
- Dangerous Goods Safety (Security Sensitive Ammonium Nitrate) Regulations 2007
- Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007

This guide applies to all dangerous goods that are regulated under the Act which includes explosives, security sensitive ammonium nitrate and combustible liquids.

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1 Introduction

The *Dangerous Goods Safety Act 2004* (the Act) and subsidiary regulations require certain situations to be reported or notified to the Chief Officer or a Dangerous Goods Officer (DGO) at the Department of Energy, Mines, Industry Regulation and Safety (the department). This guide consolidates these requirements.

1.1 Reportable situations prescribed

The following situations at dangerous goods sites, or involving dangerous goods in a pipeline, must be reported to the department if they caused, or could have caused (if not for intervening events):

- death, or unreasonable bodily injury or harm to the health of an individual
- significant and unreasonable damage or harm to property or the environment
- an unexpected spill, leak or other emission of dangerous goods
- a fire, explosion or other release of energy.

The following situations arising in the course of storing, handling or transporting dangerous goods must also be reported to the department:

- any dangerous goods incident involving explosives
- any malfunction of an explosive not involving a misfire
- any theft, attempted theft, or any unexplained loss of an explosive.

The above situations are 'reportable situations prescribed' under the Act, Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007, and Dangerous Goods Safety (Explosives) Regulations 2007.

1.2 Other reportable situations

There are additional situations that are not 'reportable situations prescribed' under the dangerous goods safety legislation, but must be reported or notified to the department:

- dangerous situations resulting from incidents during the transportation of dangerous goods
- unlawful use, or attempted unlawful use of a vehicle being used to transport security sensitive ammonium nitrate (SSAN)
- theft, attempted theft, or unexplained loss of any amount of SSAN.

The above situations must be reported or notified under the Dangerous Goods Safety (Explosives) Regulations 2007, the Dangerous Goods Safety (Road and Rail Transport of Non-explosives) Regulations 2007, and the Dangerous Goods Safety (SSAN) Regulations 2007.

For the purpose of this guide, these situations are also referred to as 'reportable situations'.

1.3 Further information

Table 1 provides additional details and examples of reportable situations, but does not set out all scenarios that must be reported to the department.

[Appendix 1](#) provides definitions of terms used in this guide, including ‘dangerous goods incident’, ‘dangerous situation’ and ‘major incident’. [Appendix 2](#) provides legislative requirements relevant to this guide. [Appendix 3](#) provides guidance for reporting losses of specific dangerous goods classes.

If you are unsure whether your situation is reportable, please contact a DGO for clarification. Contact details are provided later in this guide.

Table 1 Examples of reportable situations involving dangerous goods

Regulations	Reportable situations and examples	Who must report
Storage and handling of non-explosives	<p>Any dangerous goods incident.</p> <p>Any unintended fire, explosion or other release of energy, spill, leak or other emission of dangerous goods.</p> <p>Reportable examples:</p> <ul style="list-style-type: none"> • Tank or pipe leaks hundreds of litres into the ground or into river • Damaged valve leaks >1kL of dangerous goods and is contained in bund • A person receiving medical treatment for cold, heat or chemical burns following gas exposure • Leaks or spills in secondary containment in quantities exceeding table in Appendix 3 • LNG or ammonia storage system fails • Failure of an inert blanket system in an explosive environment • Pressure relief valve fails leading to over-pressurisation of a vessel • Vehicle fire in an ammonium nitrate loading area • Malfunction of safety critical control on demand • Off-site impact involving evacuation or road closure • Fire, explosion or other release of energy causing public concern 	Operator of the dangerous goods site, pipeline or facility

Regulations	Reportable situations and examples	Who must report
Road and rail transport of non-explosives	<p>Any dangerous situation involving a vehicle transporting non-explosives by road or rail.</p> <p>Reportable examples:</p> <ul style="list-style-type: none"> Spills on to public road where the Department of Fire and Emergency Services or WA Police close the road Vehicle traffic incident where containers or their fittings are damaged and a significant amount of dangerous goods is released Vehicle fire involving dangerous goods Off-site incident that requires evacuation or road closure 	Driver <i>and</i> prime contractor or rail operator
Explosives	<p>Any dangerous goods incident involving explosives.</p> <p>Any malfunction of an explosive not involving a misfire.</p> <p>Any theft, attempted theft or unexplained loss of any amount of an explosive.</p> <p>Any dangerous situation involving a vehicle transporting explosives by road, rail or water.</p> <p>Reportable examples:</p> <ul style="list-style-type: none"> Fire involving explosives Stocktake reveals discrepancies between expected and actual total on hand Unauthorised person entered the safe distance of a loaded shot Premature explosion of an explosives charge Unfired explosives that pose a risk to personnel (undetected misfires) Misfires discovered after the 'all clear' is given 	<p>Road transport: prime contractor and the driver</p> <p>Rail transport: prime contractor and rail track owner</p> <p>Water transport: prime contractor</p> <p>Storage and handling: any person who has any control or management of the explosive involved</p>
Security Sensitive Ammonium Nitrate (SSAN)	<p>Any theft, attempted theft or any unexplained loss of SSAN.</p> <p>Any unlawful use, or attempted unlawful use, of a vehicle being used to transport SSAN.</p> <p>Note: These situations must be reported to the department and WA Police immediately.</p>	Person in possession of or transporting the SSAN
Major Hazard Facilities (MHF)	Major incidents and dangerous goods incidents are to be reported in accordance with the operator's approved safety report and the Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007.	Operator of the MHF

2 Reporting process

To report an incident, lodge an incident report form, or make an enquiry:

Telephone:	(08) 6251 2300 (weekdays, 8.30 am to 4.30 pm)
WorkSafe incident line:	1800 678 198 (after hours)
Email:	dgsb@demirs.wa.gov.au
Postal address:	Locked Bag 100, East Perth WA 6892

Reporting incidents is important as it assists with timely investigations, the prevention of incidents through raising awareness of incident trends and the publication of learnings from investigations. Failure to report a reportable situation is an offence under the Act and regulations.

There may be additional reporting requirements under the *Work Health and Safety Act 2020* administered by WorkSafe or legislation regulated through other bodies (e.g. WA Police, Department of Water and Environmental Regulation, Department of Health).

[Figure 2](#) provides an overview of actions to be taken after an incident occurs.

2.1 Reporting as soon as practicable

The person responsible for a reportable situation, or responsible for the dangerous goods involved in a dangerous goods incident, must report the situation to a DGO as soon as reasonably practicable. This is usually straight after emergency response actions have been completed and the situation is under control.

This initial report should be completed by phone or email using the contact details provided above, and should include information about the:

- nature of incident, including measures to bring the situation under control and whether they were successful, and any injuries or harm caused
- type and amount of dangerous goods, explosives or SSAN substances involved
- location, time and date of incident
- contact details (name, company, position, phone numbers and email address) for
 - the person reporting the incident
 - witnesses
 - anyone injured or affected
- dangerous goods licence numbers (if applicable).

Prime contractors, rail operators, and site operators must ensure that food or food packaging is not transported or removed from an incident site unless permitted by the Chief Officer.

2.2 Lodging detailed reports within 21 days

The dangerous goods safety regulations specify information that must be provided to the department as soon as reasonably practicable and within 21 days of a reportable situation, unless otherwise agreed with a DGO. This information must be provided in writing.

It is advisable to use the *Dangerous goods incident report form* to ensure that the necessary information is provided. This form should be lodged with the department via the email or postal addresses provided above. For advice and assistance completing the form, please contact a DGO.

2.3 After reporting

After a *Dangerous goods incident report form* has been lodged, a DGO may request further reports such as a root cause analysis investigation report (e.g. ICAM, TapRoot). Investigation reports and related documents must be made available to the DGO when requested.


 <p>Department of Energy, Mines, Industry Regulation and Safety Dangerous Goods Safety</p>	<table border="1"> <tr> <td>File number:</td> <td>OFFICE USE ONLY</td> </tr> <tr> <td>Incident number:</td> <td>OFFICE USE ONLY</td> </tr> </table>	File number:	OFFICE USE ONLY	Incident number:	OFFICE USE ONLY								
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<p>Dangerous goods incident report form</p> <p>The <i>Dangerous Goods Safety Act 2004</i> (the Act) and subsidiary dangerous goods safety regulations require certain situations to be reported or notified to the Chief Officer or a dangerous goods officer (DGO) at the Department of Energy, Mines, Industry Regulation and Safety (the department).</p> <p>For the purposes of this form, the term 'incident' refers to all situations that must be reported or notified to the department, including unexplained loss of security sensitive ammonium nitrate (SSAN).</p> <p>The person responsible for a reportable situation, or responsible for the dangerous goods involved in a dangerous goods incident, must report the situation to a DGO as soon as reasonably practicable. This initial report should be made by phone call or email before completing this form.</p> <p>This form should be completed and lodged with Dangerous Goods Safety within 21 days of an incident, unless otherwise agreed with a DGO. Forms can be lodged via email or post.</p>													
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<p>Contact details</p> <p>1. Details of person completing this report</p> <table border="1"> <tr> <td>Full name</td> </tr> <tr> <td>Position and company</td> </tr> <tr> <td>Phone number</td> </tr> <tr> <td>Email</td> </tr> </table> <p>2. Operator and contractor details</p> <p>Storage and handling incidents</p> <table border="1"> <tr> <td>Name of operator</td> </tr> <tr> <td>Address of operator</td> </tr> </table> <p>Transport incidents</p> <table border="1"> <tr> <td>Name of driver</td> </tr> <tr> <td>Driver's licence number</td> <td>Issuing State or Territory</td> </tr> <tr> <td>Driver's employer</td> </tr> <tr> <td>Prime contractor name</td> </tr> <tr> <td>Prime contractor address</td> </tr> </table>		Full name	Position and company	Phone number	Email	Name of operator	Address of operator	Name of driver	Driver's licence number	Issuing State or Territory	Driver's employer	Prime contractor name	Prime contractor address
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Driver's licence number	Issuing State or Territory												
Driver's employer													
Prime contractor name													
Prime contractor address													
<p>Dangerous goods incident report form (Nov 2024) Page 1 of 4</p>													

Figure 1 Dangerous goods incident report form

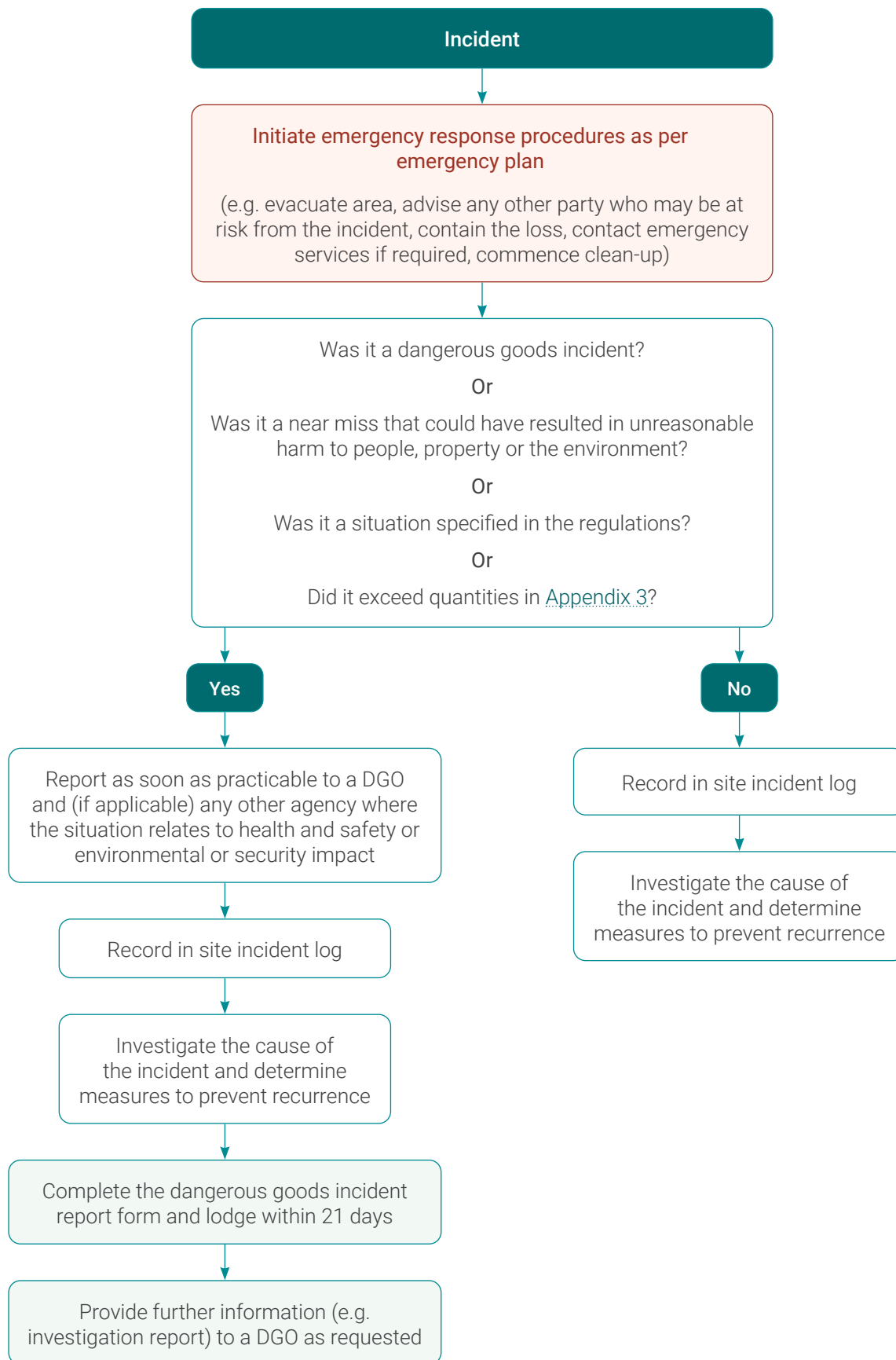


Figure 2 Overview of actions to be taken following an incident involving dangerous goods

3 Investigating reportable situations

Under the Act, a person who is involved directly or indirectly in storing, handling or transporting dangerous goods has a duty to minimise risks from dangerous goods. Investigating reportable situations related to dangerous goods assists with risk identification and reduction. Failure to adequately investigate and prevent recurrence of an incident may indicate a breach of this duty.

While certain situations related to dangerous goods require investigation under the regulations, it is prudent to investigate all incidents, including repeated near miss or low consequence incidents. Data collected from these investigations can help operators identify where an operating system may be failing, and allow for prompt intervention to minimise the likelihood of future incidents.

Identifying and addressing the root cause of such incidents may allow operators to prevent a potentially high consequence incident from occurring.

3.1 Depth of the investigation

The main aim of an investigation is to identify the root cause of the incident in question and put in place recommended actions to rectify the root cause to prevent a recurrence.

The depth of the investigation should be proportionate to a number of factors including actual or potential consequence, likelihood of recurrence, and off-site impact.

3.2 Investigation recordkeeping

An operator of a dangerous goods site or pipeline must ensure that a record of the dangerous goods investigation is kept until the site or pipeline is decommissioned.

Appendix 1 Definitions

Key terms	Meaning
As soon as reasonably practicable	As soon as possible after the reportable situation has occurred and emergency response actions have been completed.
Dangerous goods incident	Any incident that involved dangerous goods and that caused or, but for intervening events could have caused: the death of an individual, unreasonable bodily injury that interferes with an individual's health or comfort, unreasonable harm to the health of an individual, or significant and unreasonable damage or harm to property or the environment. Refer to s. 3 of the Act.
Dangerous situation	A situation where there is an imminent and high risk to people, property or the environment from dangerous goods. Refer to s. 3 of the Act.
Dangerous goods officer (DGO)	A dangerous goods officer appointed under s. 27 of the the Act.
Major incident	For Major Hazard Facilities, means an incident involving or affecting a Schedule 1 substance that causes serious harm to people, property or the environment, including an emission or loss of containment of a Schedule 1 substance, a fire, an explosion, or a release of energy. Refer to r. 4 of the Dangerous Goods Safety (Major Hazard Facilities) Regulations 2007.
Near miss	An unplanned event that did not result in injury, illness or damage, but had the potential to do so.
Operator	A person who operates the dangerous goods site or pipeline or has control or management of a Major Hazard facility. Refer to r. 4 of the Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations or (Major Hazard Facilities) Regulations 2007.
Reportable situation	For the purpose of this guide, means any situation that must be reported or notified to the department under the Act and regulations. Reportable situations include those that are not specifically referred to as 'reportable situations prescribed' (with reference to section 9 of the Act) but must still be reported or notified in accordance with dangerous goods safety regulations.
Reportable situations prescribed	A situation that is referred to as a 'reportable situation prescribed' in the dangerous goods regulations. Refer to r. 121 of the Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007 and r. 44 of the Dangerous Goods Safety (Explosives) Regulations 2007.
Unreasonable harm	Harm that is not reasonable. Harm from dangerous goods is capable of being reasonable if, and only if: it was foreseen and caused intentionally by the person who had the control or management of the goods at the time the harm occurred; it was caused by a lawful act; and in the case of harm to an individual or to property, it was caused with the consent of the individual or of the owner of the property, as the case may be. Refer to s. 5 of the Act.
Unexplained loss of an SSAN	Any loss or apparent loss of SSAN that cannot be explained by things such as product density changes, spillage, calibration variances and the effects of humidity. Refer to r. 3 of the Dangerous Goods Safety (Security Sensitive Ammonium Nitrate) Regulations 2007.

Appendix 2 Relevant legislation

Dangerous Goods Safety Act 2004

- s. 8 Duty to minimise risk from dangerous goods
- s. 9 Duty to report certain situations

Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007

- r. 120 Investigating and recording dangerous goods incidents
- r. 121 Reportable situations prescribed

Dangerous Goods Safety (Explosives) Regulations 2007

- r. 44 Reportable situations prescribed
- r. 109 Dangerous situations, duty to notify authorities

Dangerous Goods Safety (Road and Rail Transport of Non-explosives) Regulations 2007

- r. 178 Prime contractors, rail operators and drivers to inform Chief Officer

Dangerous Goods Safety (Major Hazard Facility) Regulations 2007

Dangerous goods incidents are to be reported in accordance with the operator's approved safety report.

Dangerous Goods Safety (Security Sensitive Ammonium Nitrate) Regulations 2007

- r. 14 Duties to keep SSAN secure
- r. 23 Storage requirements, specific
- r. 26 Security breach, duty to report

Appendix 3 Reportable quantities of dangerous goods losses

The following table may be used as guidance when considering whether a spill, leak or emission (which was not a 'dangerous goods incident') should be reported.

Dangerous goods	Report any loss exceeding amounts below	
	Loss NOT contained on site	Loss contained on site
Flammable gas (Division 2.1)	50 m ³	50 m ³
Non-flammable non-toxic gas (Division 2.2)	100 m ³	100 m ³
Toxic gas (Division 2.3)	5 m ³	5 m ³
Dangerous goods classified as Packing Group I	5 L / kg	50 L / kg
Dangerous goods classified as Packing Group II or III, or C1 combustible liquids	100 L / kg	1000 L / kg
Goods too dangerous to transport	5 L / kg / m ³	50 L / kg / m ³

Note: Determine loss of gas as cubic metres (m³) at STP, currently defined by the International Union of Pure and Applied Chemistry (IUPAC) as an absolute pressure of 100 kPa (1 bar) and temperature of 273.15 K (0°C).

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